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FINANCING NORTHERN DEVELOPMENT

by

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A discussion of the problem of financing economic development and growth in the northern region of Canada must be based on a realistic assessment of the economic potential of the region. I think that almost all Canadians now have some awareness of their vast northern frontier, but too frequently this awareness does not go much beyond a rather vague impression that the north is a huge and rather forbidding territory which no doubt contains many valuable resources, but where the difficulties and costs are often prohibitive. Fortunately, the region of the Canadian North is now receiving more and more detailed and scientific study, so that the continued growth of the region can be soundly based on a much more thorough knowledge of its problems and potentialities.

If we regard the North as the portion of Canada that lies above 60° north latitude, we have a region containing some 40 per cent of the entire area of our country. It is only in relatively recent years, with improved air transportation, that it has been possible to conduct rapid accurate and comprehensive mapping and surveying of this tremendous region. Although we speak of the North as if it were one region, there are, of course, a number of regions with very important distinctions between them as to geology, climate, resources and accessibility. One approach involves dividing the northland into the following five regions:

1. The Yukon
2. Mackenzie Valley
3. The Keewatin Pre-Cambrian Plain
4. The Eastern Arctic
5. The High Arctic Islands

For each of these regions it is essential to try to examine as realistically as possible, first, the economic resources of the region, and second, the question whether the development of these resources at the present time is a practical and paying economic proposition. The first step is to ascertain as accurately as possible what resources are available; the second is the more complex question of deciding whether, or at what stage, it is economically sound to proceed, taking into account all the relevant economic factors such as costs and potential markets.

So far as mineral resources are concerned, there have already been many very important discoveries. A number of mining properties are in operation and others are approaching the production stage. The basic geological conditions of the northern area are favourable for the occurrence of hard rock minerals as well as for the deposition of oil and gas. In particular, the Pre-Cambrian formations hold promise for additional mineral discoveries on the basis of the productivity of the formations in other parts of Canada. There are also in the region some 600,000 square miles underlain by sedimentary rocks which are a northward extension of the Western Canada Sedimentary Basin, and which undoubtedly contain substantial oil reserves. A wide range of minerals has been discovered in the Yukon and Northwest Territories, but it would be fair to say that the rate of development has, of course, been influenc influenced by such factors as high costs and climatic difficulties. In present circumstances of world demand, the cost of bulk transportation of mine products from the North is an inhibiting factor. Only where particularly high-grade deposits can be found within reach of adequate transportation facilities, especially navigable water has much development been possible. This has meant that gold has continued, as in the earliest days, to be the goal of many prospectors. However, such factors as rapidly-increasing world population and the growing industrialization of underdeveloped regions will certainly mean a growing demand

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for minerals which will inevitably lead to much fuller utilization of base metal and other mineral deposits in the Canadian North. Asbestos is a good example of a mining product of the North for which the mining and marketing operations are already on a sound economical basis, and there are, of course, other examples.

The economics of oil and gas development in Northern Canada is also becoming a matter of more serious and detailed study. Of particular interest is a recent publication, issued under the authority of the Minister of Northern Affairs and National Resources, by Dr. G.D. Quirin of the University of British Columbia, who is regarded as an authority on oil economics. Basing his calculation on an assumption of 50,000 barrels of oil per cubic mile of sediments more than 1,000 feet thick and excluding sediment at depths exceeding 16,000 feet, Dr Quirin's study comes up with the following possible ultimate oil reserves in Canada:

	Volume of Sediments (Cubic Miles)	Possible Reserves (Billions of Barrels)
N.W.T. Mainland	266,000	13.3
Yukon	64,000	3.2
Sub-total Mainland	330,000	16.5
Arctic Islands	664,000	33.2
Total	994,000	49.7

These possible reserves can be put into perspective by comparing them with known or proven oil reserves in the rest of Canada and in other areas. Known reserves for Canada are estimated at about 4.7 billion barrels. However, many experts believe that Canada's probable reserves, which will be "proved" as they are required, may turn out to be at least ten times this amount. This figure does not take into account the potential reserves of the Athabasca Tar Sands, considered by many to be one of the great oil reserves of the world, or the possible reserves in the Northern and Arctic regions which I have just mentioned. Canada's known reserves of 4.7 billion barrels are about 1.5 per cent of the world's total known reserves. The United States' known reserves are about 38.8 billion barrels, about 12½ per cent of the world's total. The known reserves of the Middle East are about 188 billion barrels, some 60 per cent of the world's total. The U.S.S.R., with known reserves of about 32.5 billion barrels has some 10 per cent of the world's known reserves. The conclusion is that is these possible reserves of the Canadian North can be converted to proved reserves they will be sufficient to figure prominently in any assessment of total world reserves.

Dr. Quirin's study then proceeds to the more difficult questions of how to estimate world demand and determine the prices at which development of these possible oil reserves would be warranted. While calculations of this kind can only be tentative, it is of considerable interest that a careful study of this sort does hold out prospects for economic utilization of at least some of these reserves within the not too remote future. Dr. Quirin also attempts to calculate the required finding rates which must be obtained if the operation is to be economic. His conclusion is that a viable petroleum industry is possible in all areas of Northern Canada except the Arctic Islands if the oil finding rate can approach the average for Alberta up to 1961, which was about 850,000 barrels per wildcat well. In some particular areas a lower rate would suffice but in the Arctic Islands a somewhat higher rate would be needed. These calculations would, of course, be affected in turn by changes in transportation costs, including the eventual possibility of transportation by nuclear submarine tankers.

These are some of the main economic developments which can now be anticipated. In addition, other industries may make some contribution to the economy of the North. In the forest products industry, the sawn lumber branch may never be very large because precipitation in the north is generally light, and this, coupled with large areas

of perma-frost condition, is not conducive to growing big timber. However, pulp timber is available in the Southern Yukon and possibly it could be profitably exploited at some time in the future when world markets, transportation facilities and power resources are more favourable than at present.

Apart from the possible development of commercial fur farms, the furs of wild animals are unlikely to make a major contribution to the growth of economy of the North in the future. Finally, I should mention agriculture. While it is unlikely that this will become a major industry in the northern regions, there are, of course, considerable known areas of arable soil in the Yukon and Northwest Territories. As communities are established and grow in response to other economic developments, there will undoubtedly be further development of farming operations.

Since I am here to address you as a banker, on the subject of the availability of financing for northern development, you may feel that this rather lengthy economic preamble is not very relevant. However, sound financing must be preceded by sound and intensive planning particularly when costs of production and the distance from markets require large-volume production to bring down high-unit costs. The role of the prospector has been, and will continue to be, a vital one; but, in areas such as Canada's North, actual profitable production which is the final and vital step in the development of new wealth depends on many factors.

Financing of projects and developments in the North has to be considered on a somewhat different basis from the financing of similar developments in the more populated areas of Canada closer to our southern border. This is so because there are certain special hazards to any enterprise in the Far North. Generally speaking, transportation costs are much higher, wage levels and other costs are greater, remoteness and inaccessibility to mass markets provide handicaps which have to be overcome in correcting the normal price-cost-capital return ratio.

The financing of northern developments falls into three broad sectors. The initial financing covers the exploration and search for the resources themselves or indications of such resources that warrant further exploration or development work. This is the role for private risk capital in its various forms assisted by certain essential government services, including basic transportation facilities, such as the building of development roads, tote trails and airstrips, maintenance of roads outside municipal districts and other special transportation assistance. The Federal Prospectors Assistance Program should also be mentioned, as well as the more general services of mapping and surveying, and the geological work of the Canadian Government. The implementation of our national defence policies has also made a substantial contribution in various ways to opening up and developing our North, particularly in the matter of communications and transportation. The Federal Government's program styled "Roads to Resources" has resulted in opening up some of the more inaccessible areas of the Far North and no doubt this program will be of increasing aid in the future. Provision of capital in this phase of development is definitely for private adventurers.

The second phase of financing might be classified as the appraisal and exploitation of newly discovered natural resources. I shall comment in a moment on some of the initial sources of financing for mining and oil exploration and the stage at which bank financing ordinarily is made available and the basis on which such loans are made.

Major developments require large amounts of money at a relatively early stage and, in many cases, the major mining and oil companies in Canada and outside of Canada have the resources, skills, techniques, research and willingness to undertake such developments. In the case of some mine products such as base metals, the major users of these materials may participate to a major extent in the financing by way of long-term contracts or such long-term contracts may be used as a basis for raising outside funds.

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The role of our stock exchanges in Canada has been, and should continue to be, a vital one. Not only in the case of our larger resource companies but also for those of smaller size and new companies, the funds so supplied serve a two-fold purpose - development to production and the opportunity for Canadians from all parts of Canada to participate in our resource development, the smallest investor as well as the largest. A growing participation by many Canadians from all walks of life will do much to develop an increased awareness of the North's great potential and a better understanding of certain Government responsibilities and obligations to aid in such developments. In any area where the initial investment is a speculative one some form of controls or regulations may be necessary to safeguard the interests of the prospective shareholder, but care should be exercised to see that such controls do not stifle the flow of funds. The risks at the early stages are high and the rewards, if any, must be equally so, but this is no field for widows and orphans.

It is important that there be long-term commitments in connection with the properties to be developed and such commitments ought to be on a basis not likely to be altered by the legislation of successive governments. In other words, to encourage the flow of funds to the Far North to develop resources, firm assurance is needed that favourable conditions for the development of large bodies of raw materials will be provided, will continue to exist and will not be amended or altered by taxation or other measures in the foreseeable future.

During this stage of development, or at least when it is clearly indicated that a development or series of developments requires the establishment of a town-site, plans must be made to bring the amenities of civilization to relatively remote and isolated areas. At this early period, it seems that the provision of financing for services, including roads and other forms of transportation as well as schools, water, sewage and power services must be, to a large extent, the responsibility of the Federal or Provincial Governments although municipal bodies as they become well established should properly bear their share of purely local services.

The third phase of financing, which becomes increasingly important as more and larger settled communities are established in the North, is the provision of long-term mortgage moneys for residential construction and commercial construction. I understand that at the present time some financing of this sort is available through the Central Mortgage and Housing Corporation and the Industrial Development Bank, and that there is also some special provision for second mortgage money through the Territorial Government. However, there remains a considerable gap in the provision of conventional mortgage loans for settled communities such as, for example, Whitehorse itself. As you know, under the terms of the Bank Act chartered banks are not permitted to make conventional mortgage loans, and the interest rate ceiling under which they operate has prevented them from taking Central Mortgage and Housing Corporation loans at the rates currently set under the C.M.H.C. regulations. At this point, I can only say that this is a matter of considerable concern to us and we are actively seeking a relaxation of some of these restrictions.

Against this background, I would like to say a few words about the particular role of the chartered banks, and primarily the role of the Bank which I represent, in the financing of developments in the northern region. It is fair to say that the Canadian chartered banks have been ready at every stage of the history of this area to play an active and constructive role in the development of Canada's northern region. I would like to emphasize that our bank provides exactly the same facilities and applies exactly the same standards and criteria in the field of short-term credit in the North as it does elsewhere in Canada and I believe this to be the case with the other Canadian banks. Our branch banking system is, I think, ideally adapted to the deployment of resources to developing regions where local capital by itself is not adequate. The Canadian banking system can channel the savings of Canadians from all parts of the country to those areas and projects where there are productive investment opportunities.

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There are, of course, certain limitations on the kind of financing which can be appropriately provided by the chartered banks. Although a large proportion of our total deposits is designated as savings deposits, in practice all deposits are payable on demand, and it is essential, therefore, that we maintain adequate liquidity in our holdings of assets. In addition, under the Bank Act there are still certain statutory restrictions on the kinds of assets which we are able to acquire; in particular, there is a prohibition (to which I have already referred) against taking mortgage security except in certain restricted cases under the terms of special government legislation. We have some hopes, however, that following the report of the Royal Commission which is currently making a survey of banking and finance in Canada and the subsequent regular revision of the Bank Act which is due in 1964, the chartered banks may find themselves with greater flexibility as to their lending policies and a broader choice of assets in which to invest their depositors' funds. While these changes in basic banking legislation might not relate specifically to all the problems that arise in the financing of northern development, there could be important advantages. If the over-all position of the banks were such that they could engage more effectively in a wider range of activities, their ability to contribute to the particular problems of northern financing would certainly be enhanced.

With respect to mining financing, banks have normally come into the picture most prominently at the stage where working capital is required, that is when a mine is already in operation. However, on occasion, the chartered banks have also made important contributions to financing some of the costs of fixed plant and equipment. In the earlier stages, before the actual construction of mining and milling facilities, the degree of risk is such that financing requires capital which must come from private sources, including individuals, syndicates, and investment associations as well as from the general public, in the form of investment of speculative money. At each stage in the development of a particular project, it is essential to have a careful evaluation of the prospects of the mine. Some of the basic factors are as follows:

1. Determination of average metal content and quantity of the ore.
2. Extension in depth.
3. Recoverable percentage of gross value.
4. Metal prices.
5. Production costs.
6. Amortization of capital and interest.
7. Unusual risk factors.
8. Examination of reports and efficiency of management.

When exploration and mine development have been successfully carried out it may become possible to finance a portion or all of the fixed plant by the issuing of first mortgage bonds, debentures, or by bank borrowings, or some combination of these three.

It is not possible to lay down fixed rules for the granting of bank credit, nor for the security required, since the nature of the problems is varied and each case has to be examined on its own merits. Given the liquidity requirements which the chartered banks must meet and the fact that the funds the banks are working with belong to their depositors, it is a normal requirement that a mining project be well past the development stage before there is any heavy involvement of bank financing. When the stage for providing working capital is reached, the banks have available the provisions of Section 88 of the Bank Act. The aim of these provisions is to facilitate production, manufacturing and marketing of products by making it possible for the owner of such property to give security thereon in simple form and as prescribed in the Act. The great advantage of this section lies in the fact that it helps to provide or supplement the working capital of the borrower. Bank advances to metal mines under this section of the Act are numerous and the security taken generally consists of broken ore and/or concentrates in stockpile or in transit to a smelter, supported by reliable assay certificates, and in addition an assignment is taken on the amounts owing by the smelter. The amount of the loan is based on a percentage of the estimated net smelter receipts and the need for the margin is

to provide for fluctuations in metal prices in the four-months period required to obtain settlement from the smelters. Loans under Section 88 can therefore enable a company to carry on until the sale of the metal has been completed and the proceeds of the sale received.

In view of the great potential for the discovery and development of important oil and gas reserves, a few words as to the role the banks can and do play in financing in this field would not be inappropriate. Under Section 82 of the Bank Act, the banks can make advances upon the security of hydrocarbons in, under or upon the ground, in place or in storage. This has permitted the banks to advance money against proven reserves to carry out additional discovery and development work and enabled the customer to borrow progressively as proven reserves have been developed. Before making such advances, the bank must satisfy itself as to the availability of markets for the crude oil or gas but when pipe line or other facilities are available the principal cost to the operator is the drilling of the well and placing it on production. In a number of cases, these costs can be recovered over a period of a few years and bank financing is more appropriate than long-term sources of credit. The banks have also participated in the financing of pipe line construction against the security of the oil in the line and contracts for its sale at the other terminus.

I have mentioned this financing not only as it relates to oil and gas but as an indication of what can be done when there is permissive legislation such as Section 82. This section only became part of the Bank Act in 1954 and the role played by oil and gas production loans since that date has fully justified its incorporation into the Act.

Some of us feel that the powers of this section should be broadened to include more than hydrocarbons so that advances could be made on the security of mine products in the ground and the equipment used in production and storage. In some cases it may be many years before technical developments are such that reserves in place can be evaluated with the degree of accuracy necessary to support bank loans but progress will no doubt continue to be made in this direction. Other mine products such as sulphur, helium, etc. are being discovered at an increasing rate, and with permissive legislation to take appropriate security comparable to Section 82 another important avenue of financing become available.

In conclusion I would like to say that the Yukon and the other northern territories have always had a particular attraction for those individuals and corporations that are bold and far-seeing in their outlook. Tribute is due to those pioneers, both individuals and corporations, that have demonstrated and are demonstrating their faith in the future of the North by their efforts, both financial and physical, to make this a productive and prosperous part of Canada.

We must, however, not only establish but maintain an environment that offers the necessary inducements for capital, both private and public, if we are to exploit fully the wealth that is ours. For private capital from individuals or business corporations this means sound but fair regulations that aid rather than hamper and rewards in relation to the risks involved; for public capital, from whatever level of government, it means a sound appraisal of the fundamental and essential requirements in order to ensure that those directly affected can at the earliest possible date assume full legislative and financial responsibility.

Great resources and resulting wealth can be our heritage only when we assume the full responsibility for their development for productive use.